

**CLASS 2 MODIFICATION
TO THE
TOCDF RCRA PERMIT**

REQUEST NUMBER: TOCDF-SDS-02-0899

**REQUEST TITLE: SPENT DECON TANK REMOTE SAMPLING
SYSTEM**

EPA ID: UT 5210090002

**TO: UTAH DIVISION OF SOLID AND HAZARDOUS WASTE
1460 WEST 288 NORTH
P. O. BOX 144880
SALT LAKE CITY, UTAH 84114-4880**

TITLE: SPENT DECON TANK REMOTE SAMPLING SYSTEM

CLASS: Class 2 Modification - 40 CFR 270.42 (b) & Appendix I, G.2

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A: DESCRIPTION OF CHANGES**BACKGROUND**

TOCDF has three Spent Decon System (SDS) Tanks permitted for the storage and treatment of hazardous waste. All three tanks are configured parallel and redundant to one another. The SDS Tanks accumulate decontamination solution used throughout the Munitions Demilitarization Building (MDB) and collected in various sumps. After a SDS tank is deemed to be “full”, feed to that tank is stopped and that “batch” of SDS is sampled, analyzed and thermally destroyed in the LIC Secondary Combustion Chamber (SCC). Spent decon generated during the time that the first tank is unavailable due to SCC processing is accumulated in the second tank. Under normal operations, the third tank is maintained empty while the first and second tanks are used alternately for accumulation and incinerator feed of spent decon. The RCRA Permit requires that each and every full tank “batch” of spent decon is sampled and analyzed prior to treatment of that batch in the LIC SCC.

Current SDS Tank Sample Line Configuration

Each of the three SDS tanks possesses a recirculation loop consisting of a pump, piping, strainer package with internals removed, and remote-operated valves. The recirculation loop is designed to keep its respective SDS tank contents thoroughly mixed in order to homogenize the contents for sampling purposes. Small-bore sample lines at each of the three recirculation pump discharges and suctions (a total of six sample lines) run to a glovebox located within the Agent Sampling Room (ASR, formerly known as the “XRF Room”). Through a series of manual valves in the glovebox, the Sampling Personnel are able to take a sample from the desired SDS tank’s recirculation loop following a preset tank recirculation and mixing time. The motive force to move the sample from the SDS tank to the sampling location and back is provided by the recirculation pump.

Problem with Current SDS Tank Sample Line Configuration

The remote sampling system has been prone to plugging and unreliable operation. Because the sampling system is not considered operable, sampling personnel have been using a local grab-sample procedure at the tanks. Because the tanks are located in an agent-contaminated room, each tank-full of spent decon has required a Demilitarization Protective Ensemble (DPE) toxic-area personnel entry to retrieve the tank samples.

Modified SDS Tank Sample Line Configuration

The existing agent spill transfer pump, ACS-PUMP-120 (pump 120), has the capability of moving the contents of any one of the three SDS tanks to any other SDS tank. Through the use of existing remotely-operated valves, the contents of any selected SDS

tank can be recirculated by pump 120 instead of the designated tank recirculation loops. As a result, each SDS tank's recirculation loop can be abandoned in place, and the function it served can be performed by pump 120 through selected remote-operated valves.

The modified RSS will make use of the SDS-TANK-101 sample tubing by removing the sample lines from the SDS tank 101 recirculation pump, and reattaching them to pump 120. The recirculation loop sample systems at SDS tanks 102 and 103 will be permanently removed from service.

At the ASR glovebox, instead of having three supply/return sample line pairs (one pair for each SDS tank), the single supply/return sample line pair that previously served SDS tank 101 will be the only sample line pair to remain in use, although that sample line pair will be able to serve all three SDS tanks.

PERMIT WORDING CHANGES

Although the physical reconfiguration of the SDS tank sample lines is considered a modification to a permitted 40 CFR 264 Subpart J hazardous waste storage tank system's ancillary equipment, no specific Permit language has been identified that requires revision.

B: RCRA PERMIT CHANGE PAGES

CHANGE PAGES IN BODY OF PERMIT:

None

CHANGE PAGES IN ATTACHMENTS OF PERMIT:

None

CHANGES TO DRAWINGS IN PERMIT

RCRA as-built drawings associated with the physical configuration change of the SDS Tank Remote Sample System will be submitted under a separate Class One RCRA Modification. The following are RCRA Permit-Referenced drawings that will require revision as a result of the RSS design change:

- | | |
|-----------------|--|
| 1. TE-1-D-534 | Toxic Cubicle – Spent Decon (SDS-TANK-101) |
| 2. EG-01-D-534 | Toxic Cubicle – Spent Decon (SDS-TANK-102) |
| 3. TE-1-D-535 | Toxic Cubicle – Spent Decon (SDS-TANK-103) |
| 4. EG-01-D-3501 | TOX - Remote Agent Sampling System |

Draft revised drawings for reference are found in Section F of this Mod Request.

C: FACILITY IMPACT

Physical Facility Impacts

The overall length of SDS tank sample lines will be reduced to approximately one third of the current length. The entire recirculation loop sample system of SDS Tanks 102 and 103 will be permanently removed from service and abandoned in place. Recirculation of SDS tank contents will be accomplished through the use of the existing agent spill transfer pump and existing remotely-operated valves.

Administrative Facility Impacts

In accordance with the site Configuration Management Process for engineering changes, plant procedures, drawings and miscellaneous documents will be revised to incorporate the new Remote Sampling System.

Facility Personnel Impacts

The existing SDS Remote Sampling System has been unreliable and prone to plugging. As a result, personnel have been making toxic entries in order to take SDS tank samples directly from the tank sample port in lieu of using the remote system. Once in service, the new SDS Sampling System will eliminate the need for personnel toxic entries in order to take routine SDS tank samples.

D: HEALTH/ENVIRONMENTAL IMPACT

There are no adverse health or environmental impacts associated with this modification, based on the following:

- 1) This modification will increase the reliability of the sampling system, thereby eliminating the need for personnel entries to take SDS samples directly at the tanks.
- 2) This modification will reduce the total length of sample lines and the number of pumps required to collect routine SDS samples.

E: JUSTIFICATION

The current SDS Remote Sampling System (RSS) was installed to enable a sample of the SDS tanks' contents to be collected at a location of the plant remote from the SDS tanks. Each tank-full of spent decon requires a sample analysis prior to treatment in the LIC secondary chamber; when in service, the SDS RSS eliminates the need for toxic personnel entries into the SDS tank room to collect routine spent decon samples directly at the tanks.

Since its installation, the original SDS RSS has been prone to plugging and malfunction. With the SDS RSS system out-of-service, personnel have to make toxic-area entries into the SDS room in order to collect the required SDS samples. In an effort to restore the reliability and operability of the SDS RSS, a simplified and improved design has been developed.

Because the SDS RSS is considered ancillary to the SDS tank system, which is a RCRA permitted hazardous waste storage and treatment unit, this modification to the RSS impacts the TOCDF RCRA permit. RCRA Permit-referenced piping and instrumentation diagrams (P&IDs) require revision to incorporate the modified RSS, although specific Permit language will not require revision.

F: DRAWINGS

F.1	TE-1-D-534	Toxic Cubicle – Spent Decon, SDS-TANK-101
F.2	EG-01-D-534	Toxic Cubicle – Spent Decon, SDS-TANK-102
F.3	TE-1-D-535	Toxic Cubicle – Spent Decon, SDS-TANK-103
F.4	EG-01-D-3501	Tox-Remote Agent Sampling System

G: NOTICE TO MAILING LIST AND NEWSPAPER PUBLISHER
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REQUEST NUMBER: TOCDF-SDS-02-0899

REQUEST TITLE: Spent Decon Tank Remote Sampling System

SUMMARY:

TOCDF intends to modify the Spent Decon System (SDS) tank remote sampling system (RSS) to take advantage of an existing pump and to reduce the amount of plant equipment necessary to perform sampling activities. The modification will result in a more reliable RSS and reduce the need to perform toxic personnel entries into the SDS Room that result from an out-of-service RSS.

The modified RSS will possess a single supply/return sample line pair to the remote glovebox station instead of a supply/return sample line pair for each of the three tanks. In addition, the same single pump will be used for all tank pre-sample recirculation and sampling. Tank selection will be accomplished through the use of existing remotely-operated and local manual valves.

Concurrent with the modification request, TOCDF is requesting temporary authorization (TA) to begin installation and testing activities associated with modifying the SDS Tank RSS prior to the end of the 60-day post-submittal period. The modified SDS Tank RSS will not be used for sampling of hazardous waste until its construction has been certified by a qualified independent Professional Engineer.

5

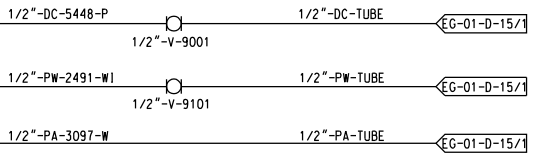
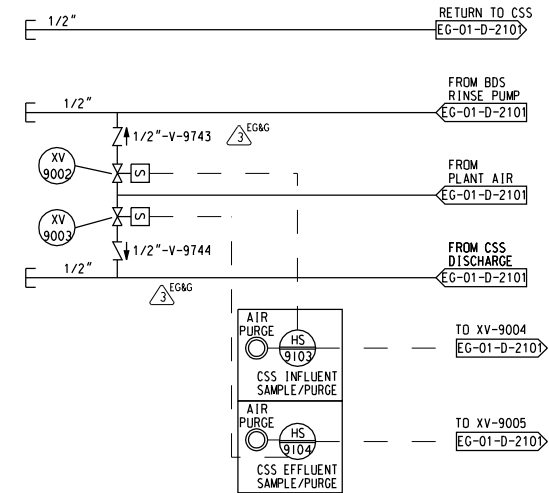
4

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DRAWING STATUS											
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	ENGR.	PROD.	ENGR.	ENGR.	PROD.	ENGR.	PROD.
BB	07/28/04	REVISED PER EWO 40338, 61560, ECP 4283 & 4287 & 4184	DLP	DR	MJB						
9	09/22/04	REVISED PER EWO 68125 & ECP 3893	DLP	TLW	JH						
9A	11/02/05	REVISED PER EWO 122452 & ECP 4184	TLW	DLP	JH						
10	05/24/06	REVISED PER EWO 122452 & ECP 4184	TLW	DLP	JRH						
10A	06/23/06	REVISED PER EWO ?????? & ECP 4476	SDN								

NOTES:
1. ALL INSTRUMENT AND VALVE TAG NUMBERS ARE PREFIXED WITH 04-51, EXCEPT AS NOTED.



Symbol	Description	Date	Approved
Revisions			
10A	REVISED FOR CONSTRUCTION		
10	REVISED AS BUILT	05/24/06	JRH
9A	REVISED FOR CONSTRUCTION	11/01/05	JH
9	REVISED AS BUILT	09/24/04	JH
8B	REVISED FOR CONSTRUCTION	08/03/04	MJB
8A	REVISED FOR CONSTRUCTION	08/03/04	MJB
8	REVISED AS-BUILT	07/19/04	MJB
7	REVISED PER CONSTRUCTION	02/06/04	JH

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

A Division of

US Army Corps of Engineers
TOELEY ARMY DEPOT
TOELEY, UTAH

Drawn by:
SD NICHOLAS

Date:
03/19/01

Checked by:
RCR

EG&G Approved:
SD NICHOLAS

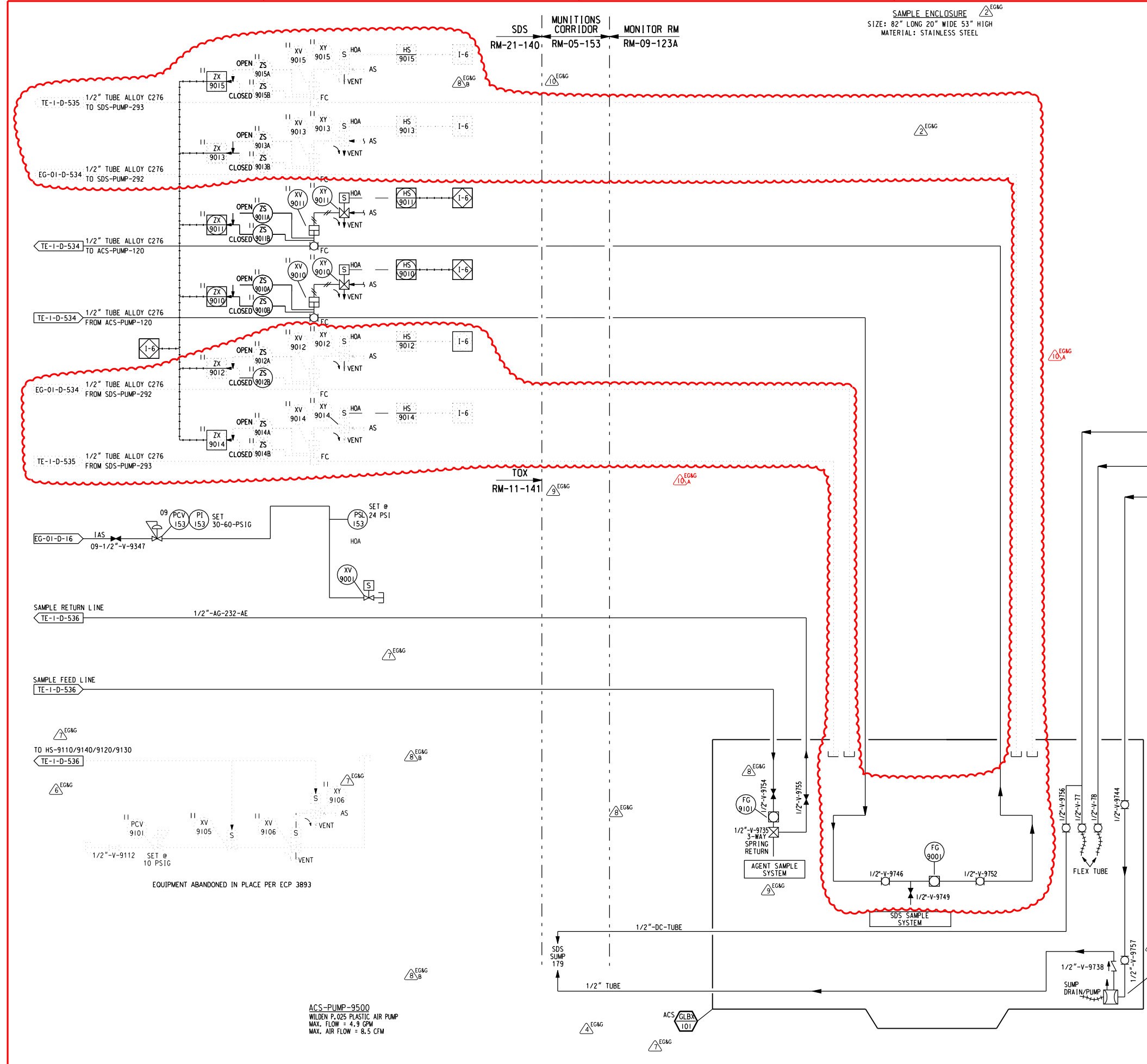
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Scale:
NO SCALE

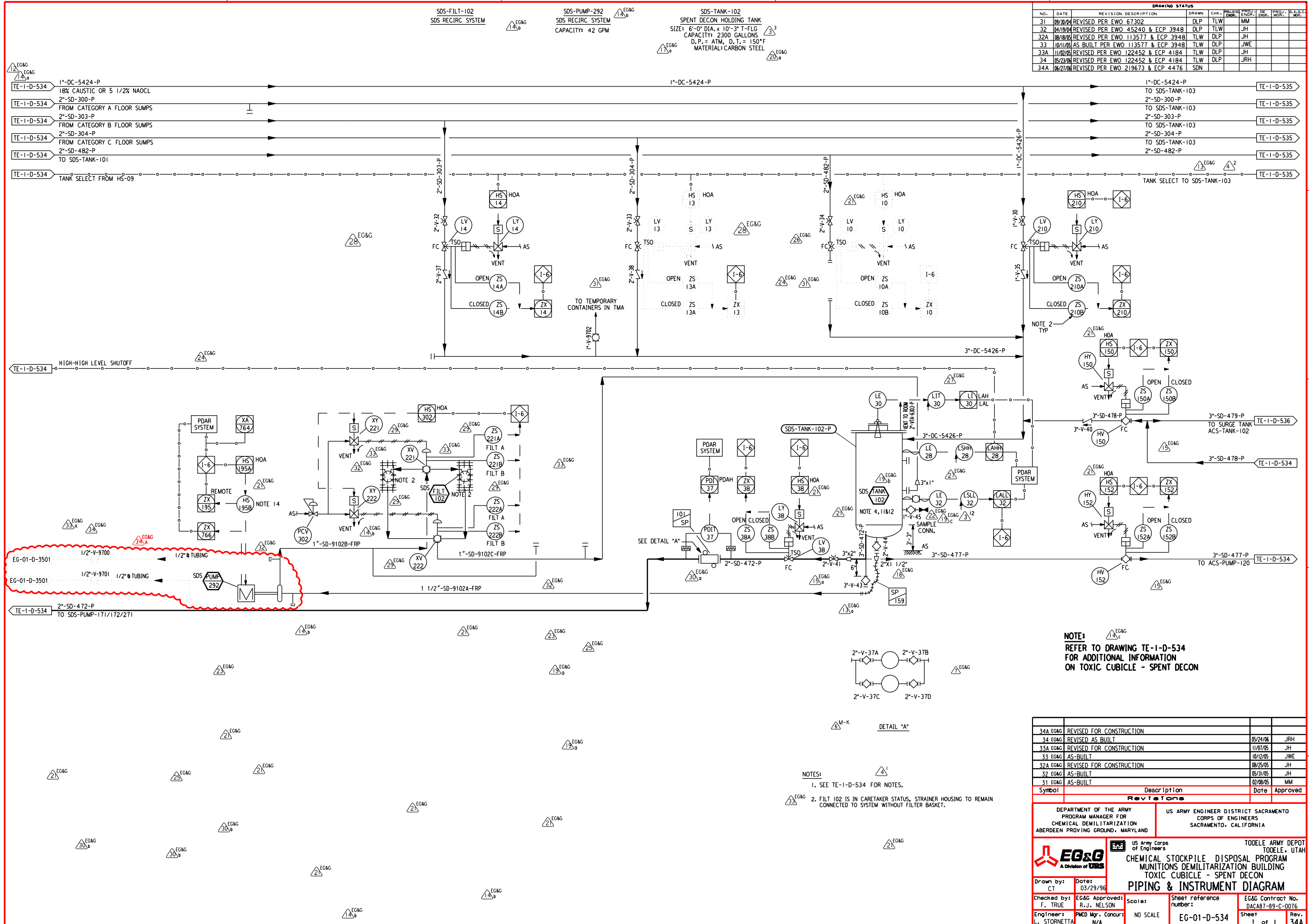
Sheet reference number:
EG-01-D-3501


EG&G Contract No.
DAC487-89-C-0076



Rev.
1 of 10A



DRAWING STATUS									
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHKD	PREPARED	PROD'D	ISS. ENG'D	PROCT'D	Q. A. & C. ENG'D
31	09/04/04	REVISED PER EWO 67302	DLP	TLW	MM				
32	04/19/04	REVISED PER EWO 45240 & ECP 3948	DLP	TLW	JH				
32A	08/08/05	REVISED PER EWO 113577 & ECP 3948	DLP	TLW	JH				
33	10/10/05	AS BUILT PER EWO 113577 & ECP 3948	DLP	TLW	JH				
33A	11/02/05	REVISED PER EWO 122452 & ECP 4184	DLP	TLW	JH				
34	05/27/08	REVISED PER EWO 122452 & ECP 4184	TLW	DLP	JRH				
34A	06/17/08	REVISED PER EWO 219673 & ECP 4476	SDN						



NOTE:  REFER TO DRAWING TE-1-D-534
FOR ADDITIONAL INFORMATION
ON TOXIC CUBICLE - SPENT DECON

34A	EG&G	REVISED FOR CONSTRUCTION		
34	EG&G	REVISED AS BUILT	05/24/06	JRH
33A	EG&G	REVISED FOR CONSTRUCTION	11/07/05	JH
33	EG&G	AS-BUILT	10/12/05	JWE
32A	EG&G	REVISED FOR CONSTRUCTION	08/25/05	JH
32	EG&G	AS-BUILT	05/31/05	JH
31	EG&G	AS-BUILT	02/08/05	MM
Symbol		Description	Date	Approved
Revisions				
DEPARTMENT OF THE ARMY PROGRAM MANAGER FOR CHEMICAL DEMILITARIZATION ABERDEEN PROVING GROUND, MARYLAND			US ARMY ENGINEER DISTRICT SACTORIO CORPS OF ENGINEERS SACRAMENTO, CALIFORNIA	
		 US Army Corps of Engineers	TODEE ARMY DEPOT TODEE, UTAH	
CHEMICAL STOCKPILE DISPOSAL PROGRAM MUNITIONS DEMILITARIZATION BUILDING TOXIC CUBICLE - SPENT DECON				
Drawn by: CT			Date: 03/29/96	
Checked by: F. TRUE		EG&G Approved: R.-J. NELSON		Scale: NO SCALE
Engineers: L. STORNETTA		PMCD Mgr. Concur: N/A		Sheet reference number: EG-01-D-534
			EG&G Contract No. DAC87-89-C-0076	Sheet 1 of 1
			Rev. 34A	

